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REMARKS

Claims 2 and 3 have been canceled. Claims 1, 4, 12, and 20 have been amended. Claims 1 and 4 through 20 remain in the application. A marked up copy of the amended claims is attached hereto as Appendix A.

Claims 1 and 6 through 19 were rejected under 35 U.S.C. § 103 as being unpatentable over Neal et al. (U.S. Patent No. 5,660,206) in view of Abu-Isa (U.S. Patent No. 6,395,357). Claims 1 and 5 through 19 were rejected under 35 U.S.C. § 103 as being unpatentable over Kloess et al. (U.S. Patent No. 6,357,618) in view of Duhaime et al. (U.S. Patent No. 5,425,470). Applicants respectfully traverse both of these rejections.

U.S. Patent No. 5,660,206 to Neal et al. discloses a fuel tank filler neck check valve. A vehicle fuel tank 20 has fuel pump module 22 therein with a removable cover 23 sealed to the top of the tank with an electrical connection 24 and a fuel line outlet connector 26. The fuel tank 20 is formed of a laminated polyethylene material 60 (with an embedded vapor barrier film) and has an integral upstanding threaded fill spout 62. Neal et al. does not disclose a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of fuel through the cover.

U.S. Patent No. 6,395,357 to Abu-Isa discloses a fuel permeation barrier fuel tank. The fuel permeation barrier fuel tank 10 has base walls 18,24, side walls 20,26, and flanges 22,28 formed from a plurality of layers 30,32,34,36,38,40. The third layer 34 is a barrier layer made from an ethylene vinyl alcohol (EVOH) copolymer. The third layer 34 has a predetermined thickness of approximately 0.11 mm. The third layer 36 also has a predetermined percentage of the material weight such as approximately 3.0%. Abu-Isa does not disclose a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of fuel through the cover.

U.S. Patent No. 6,357,618 to Kloess et al. discloses a fuel tank assembly for a motor vehicle. A cover element 20 generally covers an opening 12. Kloess et al. does not disclose a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of fuel through the cover.

U.S. Patent No. 5,425,470 to Duhaime et al. discloses a fuel tank closure. A closure plug 42 is within an opening 40. The closure plug 42 includes an inner layer 44, outer layer 46, and barrier layer 48 therebetween. The barrier layer 48 is made from a similar material as barrier layer 24. Suitable material for barrier layer 24 includes ethylene vinyl alcohol (EVOH), nylon, and acetel. Duhaime et al. does not disclose a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of fuel through the cover.

In contradistinction, claim 1, as amended, clarifies the invention claimed as a permeation barrier fuel module cover assembly for a fuel tank of a vehicle including a cover for a fuel module having a base wall, a raised portion extending axially from the base wall, and a skirt extending axially from the base wall opposite the raised portion. The permeation barrier fuel module cover assembly also includes a fuel permeation barrier layer attached to the cover to cover a surface area solely inside of the skirt to retard permeation of fuel through the cover. Claim 12 has been amended similar to claim 1 and does not include the feature of the raised portion.

The United States Court of Appeals for the Federal Circuit (CAFC) has stated in determining the propriety of a rejection under 35 U.S.C. § 103, it is well settled that the obviousness of an invention cannot be established by combining the teachings of the prior art absent some teaching, suggestion or incentive supporting the combination. See In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories,

Inc., 776 F.2d 281, 227 U.S.P.Q. 657 (Fed. Cir. 1985); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 221 U.S.P.Q. 929 (Fed. Cir. 1984). The law followed by our court of review and the Board of Patent Appeals and Interferences is that “[a] prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.” In re Rinehart, 531 F.2d 1048, 1051, 189 U.S.P.Q. 143, 147 (C.C.P.A. 1976). See also In re Lalu, 747 F.2d 703, 705, 223 U.S.P.Q. 1257, 1258 (Fed. Cir. 1984) (“In determining whether a case of prima facie obviousness exists, it is necessary to ascertain whether the prior art teachings would appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification.”)

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claims 1 and 12. Specifically, Neal et al. ‘206 merely discloses a fuel tank filler neck check valve in which a vehicle fuel tank has fuel pump module therein with a removable cover sealed to the top of the tank with the fuel tank formed of a laminated polyethylene material (with an embedded vapor barrier film). Neal et al. ‘206 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of fuel through the cover. Abu-Isa ‘357 merely discloses a fuel permeation barrier fuel tank having base walls, side walls, and flanges formed from a plurality of layers in which a third layer is a barrier layer made from an ethylene vinyl alcohol (EVOH) copolymer. Abu-Isa ‘357 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of fuel through the cover. Kloess et al. ‘618 merely discloses a fuel tank assembly for a motor vehicle having a cover element generally covering an opening. Kloess et al. ‘618 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a

skirt of the cover to retard permeation of fuel through the cover. Duhaime et al. '470 merely discloses a fuel tank closure having an inner layer, outer layer, and barrier layer therebetween. Duhaime et al. '470 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of fuel through the cover. There is no motivation in the art to combine either Neal et al. '206 and Abu-Isa '357 together or Kloess et al. '618 and Duhaime et al. '470 together.

The references, if combinable, fail to teach or suggest the combination of a permeation barrier fuel module cover assembly including a fuel permeation barrier layer attached to a fuel module cover having a base wall, a raised portion extending axially from the base wall, and a skirt extending axially from the base wall opposite the raised portion to cover a surface area solely inside of the skirt to retard permeation of fuel through the cover as claimed by Applicants. The claimed invention is novel and unobvious because the permeation barrier fuel module cover assembly uses a barrier layer, which provides for performance enhancement in permeation of polymer covers used on fuel modules by reducing the surface area through which hydrocarbons can escape. Therefore, it is respectfully submitted that claims 1 and 12 and the claims dependent therefrom are allowable over all of the rejections under 35 U.S.C. § 103.

Claim 20 was rejected under 35 U.S.C. § 103 as being unpatentable over Kloess et al. '618 in view of Duhaime et al. '470 and Reamy (U.S. Patent No. 1,979,706). Applicants respectfully traverse this rejection.

U.S. Patent No. 1,979,706 to Reamy discloses a can cover. A can 2 has an opening 4. A cover fitting over the opening 4 has a flange 5, a flange 6, and a diaphragm 7 between the two flanges 5 and 6. Reamy does not disclose a fuel module cover having a base wall, a raised portion extending axially from the base wall and radially across the base wall, and a skirt extending axially from the base wall opposite the raised portion. Reamy also does not

disclose a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of the skirt to retard permeation of fuel through the cover.

In contradistinction, claim 20, as amended, clarifies the invention claimed as a permeation barrier fuel module cover assembly for a fuel tank of a vehicle including a fuel module cover having a base wall, a raised portion extending axially from the base wall and radially across the base wall, and a skirt extending axially from the base wall opposite the raised portion. The permeation barrier fuel module cover assembly also includes a fuel permeation barrier layer disposed between the base wall and the raised portion inside of the skirt to cover a surface area solely inside of the skirt to retard permeation of fuel through the fuel module cover.

None of the references cited, either alone or in combination with each other, teach or suggest the claimed invention of claim 20. Specifically, Kloess et al. '618 merely discloses a fuel tank assembly for a motor vehicle having a cover element generally covering an opening. Kloess et al. '618 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of the skirt to retard permeation of fuel through the cover. Duhaime et al. '470 merely discloses a fuel tank closure having an inner layer, outer layer, and barrier layer therebetween. Duhaime et al. '470 lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of fuel through the cover. Reamy '706 merely discloses a can cover fitting over an opening of a can and having a first flange, a second flange, and a diaphragm between the two flanges. Reamy '706 lacks a fuel module cover having a base wall, a raised portion extending axially from the base wall and radially across the base wall, and a skirt extending axially from the base wall opposite the raised portion. Reamy '706 also lacks a fuel permeation barrier layer attached to a fuel module cover to cover a surface area solely inside of a skirt of the cover to retard permeation of

fuel through the cover. There is no motivation in the art to combine Kloess et al. '618, Duhaime et al. '470, and Reamy '706 together.


The references, if combinable, fail to teach or suggest the combination of a permeation barrier fuel module cover assembly including a fuel permeation barrier layer attached to a fuel module cover having a base wall, a raised portion extending axially from the base wall and radially across the base wall, and a skirt extending axially from the base wall opposite the raised portion to cover a surface area solely inside of the skirt to retard permeation of fuel through the cover as claimed by Applicants. The claimed invention is novel and unobvious because the permeation barrier fuel module cover assembly uses a barrier layer, which provides for performance enhancement in permeation of polymer covers used on fuel modules by reducing the surface area through which hydrocarbons can escape. Therefore, it is respectfully submitted that claim 20 is allowable over the rejection under 35 U.S.C. § 103.

Claims 2 through 4 were rejected under 35 U.S.C. § 103 as being unpatentable over the art applied to claim 1 and further in view of Reamy '706. Claims 2 and 3 have been canceled and the rejection as to these claims is moot. Applicants respectfully traverse the rejection as it applies to claim 4 for the same reasons given above to claim 1.

Obviousness under § 103 is a legal conclusion based on factual evidence (In re Fine, 837 F.2d 1071, 1073, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988), and the subjective opinion of the Examiner as to what is or is not obvious, without evidence in support thereof, does not suffice. Since the Examiner has not provided a sufficient factual basis, which is supportive of his/her position (see In re Warner, 379 F.2d 1011, 1017, 154 U.S.P.Q. 173, 178 (C.C.P.A. 1967), cert. denied, 389 U.S. 1057 (1968)), the rejections of claims 1 and 4 through 20 are improper. Therefore, it is respectfully submitted that claims 1 and 4 through 20 are allowable over the rejections under 35 U.S.C. § 103.

Based on the above, it is respectfully submitted that the claims are in a condition for allowance, which allowance is solicited.

Respectfully submitted,

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Date: April 2, 2003

Attorney Docket No.: DP-303327

APPENDIX A**VERSION OF THE CLAIMS WITH MARKINGS TO SHOW THE CHANGES**

Please amend claims 1, 4, 12, and 20 as follows:

1. (TWICE AMENDED) A permeation barrier fuel module cover assembly for a fuel tank of a vehicle comprising:

a cover for a fuel module having a base wall, a raised portion extending axially from said base wall, and a skirt extending axially from said base wall opposite said raised portion; and

a fuel permeation barrier layer attached to said cover to cover a surface area solely inside of said skirt to retard permeation of fuel through said cover.

4. (AMENDED) A permeation barrier fuel module cover assembly as set forth in claim [2] 1 wherein said fuel permeation barrier layer is disposed between said base wall and said raised portion.

12. (TWICE AMENDED) A permeation barrier fuel module cover assembly for a fuel tank of a vehicle comprising:

a cover for a fuel module having a base wall and a skirt extending axially from said base wall; and

a fuel permeation barrier layer attached to said cover inside of said skirt to cover a surface area solely inside of said skirt to retard permeation of fuel through said cover.

20. (TWICE AMENDED) A permeation barrier fuel module cover assembly for a fuel tank of a vehicle comprising:

a fuel module cover having a base wall, a raised portion extending axially from said base wall and radially across said base wall, and a skirt extending axially from said base wall opposite said raised portion; and

a fuel permeation barrier layer disposed between said base wall and said raised portion inside of said skirt to cover a surface area solely inside of said skirt to retard permeation of fuel through said fuel module cover.